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AN ECOLOGICAL STUDY ON CHIRONOMID LARVAE
(INSECTA : DIPTERA) IN MEDA ELA KANDY

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The abundance of chironomid larvae of Meda Ela, Kandy District was studied in order to examine its relationship to important physico-chemical characteristics of the habitat. The study was carried out for five months. Water and soil samples were collected and physico-chemical parameters measured at five stations at two week intervals. Physico-chemical parameters studied were the rainfall, rate of water flow, depth of water, water temperature, pH, conductivity, BOD, DO₂ and total alkalinity. Samples of 600 ml of mud/sand were collected from each sampling station for studying chironomid larvae and other macrofauna.

The BOD values varied between 0.2 mg dm⁻³ to 25.68 mg dm⁻³ and the DO₂ values varied between 0.0 mg dm⁻³ to 32.8 mg dm⁻³. An inverse relationship was observed between the BOD and the abundance of chironomid larvae, while a direct relationship was observed between the latter and DO₂ concentration. Total alkalinity at five sites fluctuated from 48.8 mg dm⁻³ to 28.5 mg dm⁻³ and the total alkalinity values were inversely proportional to abundance of chironomid larvae.

Abundance of chironomid larvae was not stable at the sites sampled. In addition to chironomid larvae, *Melanoides tuberculata*, *Bellamyia ceylanica*, *Lymnaea*, *Hydra vulgaris*, *Tubifex*, lumbricid worms, horsefly larvae and gordian worms were also identified at the five sampling stations.

The present study indicated the importance of chironomid larvae as a biological indicator of water quality. However, the abundance of chironomid larvae may not be the only criteria useful in assessing the degree of pollution in a water body. These organisms can survive well in less polluted waters as well. Therefore, species level identification along with the abundance of chironomid larvae would be more useful in studies on aquatic pollution.